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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/002,574	11/14/2001	David E. Branson	10003836-1	4285

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HEWLETT-PACKARD COMPANY
Intellectual Property Administration
P.O. Box 272400
Fort Collins, CO 80527-2400

EXAMINER

LOVELL, LEAH S

ART UNIT	PAPER NUMBER
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2885

MAIL DATE	DELIVERY MODE
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05/21/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/002,574

Applicant(s)

BRANSON ET AL.

Examiner

LEAH S. LOVELL

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 February 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-946)
- 3) ☐ Information Disclosure Statement(s) (PTO/SE/US)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1 and 18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 1 reads, "a light source...and moving along a displacement path" and claim 18 reads, "the light source means moves along a displacement path." It is unclear if the light source/light source means is moving alone or if the combination of the light source and reflector are moving along the displaceable path.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-20 are rejected under 35 U.S.C. 102(e) as being anticipated by Hsu (US 6,249,368).

Regarding claim 1, Hsu discloses an illumination system [8] for illuminating a scan region on an object, comprising:

a hollow reflector [81] having an interior reflective surface [column 3, lines 11-12] and an exit aperture [84] formed in a body of the hollow reflector [figure 5];

a light source [82] positioned within said hollow reflector [at A; column 3, lines 7-10; figures 5 and 6]] and moving along a displacement path to illuminate a scan region of an object that is positioned on a platen [column 2, line 66-column 3, line 4], said light source [82] producing a plurality of light rays [shown in figure 6], some of the light rays produced by said light source being reflected by the interior reflective surface of said hollow reflector before passing through the exit aperture [figure 6];

a first reflector [see figure B below] joined to a first side of the exit aperture of said hollow reflector; and

a second reflector [see figure B below] joined to a second side of the exit aperture of said hollow reflector, said first and second reflectors being positioned in non-parallel, spaced apart relation to one another [clear in figure B below], said first and second reflectors at least partially collimating light passing through the exit aperture of said hollow reflector to form a collimated beam [column 3, lines 11-23], wherein the hollow reflector is formed to comprise both the interior reflective surface and the first and second reflectors [figure 5].

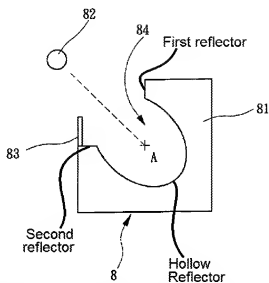


FIGURE B: figure 5 of Hsu modified to clearly indicate the first and second reflectors.

In regard to claim 2, Hsu discloses said hollow reflector [81] has open ends that provide an inlet for air to enter interior regions of the hollow reflector [since the opening runs the length of the hollow reflector it is clear that the ends are open which clearly allow air to enter the hollow region].

Regarding claim 3, Hsu discloses the first and second reflectors comprise integral portions of the hollow reflector [figure 5; since the hollow reflector, first reflector and second reflector are formed of the same body, it is clear that the first and second reflectors comprise integral portions of the hollow reflector].

In regard to claim 4, Hsu discloses the first and second reflectors form a sharp corner at a junction with the interior reflective surface of said hollow reflector [figure 5], the sharp corner minimizes scattering and improves collimation of the light rays passing through the exit aperture [Hsu discloses all of the claimed structure as indicated above,

therefore, it is clear that the sharp corners would minimize scattering and improved collimation of the light rays passing there through].

Regarding claim 5, Hsu discloses the illumination system [8] is mounted to a carriage that moves along the displacement path to illuminate the scan region on the object [column 2, line 66-column 3, line 4; column 1, lines 29-42].

In regard to claim 6, Hsu discloses said first reflector comprises a generally flat reflective surface [see figure B above].

Regarding claim 7, Hsu discloses said second reflector comprises a generally flat reflective surface [see figure B above].

In regard to claim 8, Hsu discloses said first and second reflectors comprise specular reflecting surfaces [figure 6; column 3, lines 11-12].

In regard to claim 9, Hsu discloses said first and second reflectors are coated with a specular reflecting material [figure 6; column 3, lines 11-12].

Regarding claim 10, Hsu discloses an illumination system for illuminating a scan region on an object, comprising:

- a body [81] having an interior wall defining a generally cylindrically shaped interior reflective surface [column 3, lines 5-24], the interior wall of said body also defining a generally elongate axial opening [84] therein located at a first radial position on the interior wall of said body [figure 5];

- a light source [82] illuminating a scan region on an object that is positioned on a platen [2] and being positioned within the generally

cylindrically shaped interior reflective surface defined by said body [figure 6];

a first reflector [see figure B above] joined to a first side of the elongate axial opening defined by the interior wall of said body [figures 5 and 6]; and

a second reflector [see figure B above] joined to a second side of the elongate axial opening defined by the interior wall of said body [see figure B above], said first and second reflectors being positioned in non-parallel, spaced apart relation to one another [clear in figure B below], said first and second reflectors at least partially collimating light passing through the exit aperture of said hollow reflector to form a collimated beam [column 3, lines 11-23]; and

the first and second reflectors form a sharp corner at a junction with the interior reflective surface of said hollow reflector [figure 5], the sharp corner minimizes scattering and improves collimation of the light rays passing through the exit aperture [Hsu discloses all of the claimed structure as indicated above, therefore, it is clear that the sharp corners would minimize scattering and improved collimation of the light rays passing there through].

Regarding claim 11, Hsu discloses the first and second reflectors comprise integral portions of the body [figure 5; since the hollow reflector, first reflector and

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second reflector are formed of the same body, it is clear that the first and second reflectors comprise integral portions of the body].

In regard to claim 12, Hsu discloses said first reflector comprises a flat reflective surface [see figure B above].

Regarding claim 13, Hsu discloses said second reflector comprises a flat reflective surface [see figure B above].

In regard to claim 14, Hsu discloses a length of the body [81] is co-extensive with a length of a scan line within the scan region [figure 1].

Regarding claim 15, Hsu discloses the body [81] is formed to comprise both the interior reflective surface and the first and second reflectors [figure 5].

In regard to claim 16, Hsu discloses said first and second reflectors comprise specular reflecting surfaces [figure 6; column 3, lines 11-12].

In regard to claim 17, Hsu discloses said first and second reflectors are coated with a specular reflecting material [figure 6; column 3, lines 11-12].

Regarding claim 18, Hsu discloses an illumination system [8] for illuminating a scan region on an object, comprising:

hollow reflector [81] means for defining an interior reflective surface [column 3, lines 11-12] and an exit aperture [84] formed in a body of the hollow reflector [figure 5];

light source [82] means positioned within said hollow reflector [figure 6] means for producing a plurality of light rays as the light source

means moves along a displacement path to illuminate the scan region on the object [column 2, line 66-column 3, line 4]; and

collimating reflector means [see figure B above—the first and second reflectors] joined to the exit aperture defined by said hollow reflector means for at least partially collimating light exiting the exit aperture defined by said hollow reflector means to form a collimated beam [column 3, lines 11-23], wherein the hollow reflector means is integrally formed to comprise both the collimating reflector means and the interior reflecting surface [figure 5].

In regard to claim 19, Hsu discloses said collimating reflector means forms a sharp corner at a junction with the interior reflective surface of said hollow reflector [figure 5], the sharp corner minimizes scattering and improves collimation of the light rays passing through the exit aperture [Hsu discloses all of the claimed structure as indicated above, therefore, it is clear that the sharp corners would minimize scattering and improved collimation of the light rays passing there through].

Regarding claim 20, Hsu discloses a method for illuminating a scan region on an object, comprising:

providing a hollow reflector [81] having an interior reflecting surface [column 3, lines 11-12] and an exit aperture [84] [figure 5];

disposing a collimating reflector [the first and second reflectors indicated in figure B above] on at least one surface of the exit aperture of

the hollow reflector and forming a junction between the collimating reflector and the interior reflecting surface [figure 5]; and

directing a plurality of light rays onto the interior reflecting surface of the hollow reflector, the interior reflecting surface reflecting some of the light rays through the exit aperture in the hollow reflector, the collimating reflector at least partially collimating light exiting the exit aperture in the hollow reflector to form a collimated beam [figure 6].

Response to Arguments

5. Applicant's arguments with respect to claims 1-20 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following are cited as illumination means in a scanner having a hollow reflector with at least a first and second reflector on a side thereof:

- Kurtz et al. (US 4,868,383)
- Egami et al. (US 4,922,392)
- Federico et al. (US 5,103,385)
- Fujimoto et al. (US 6,953,263)

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LEAH S. LOVELL whose telephone number is (571)272-2719. The examiner can normally be reached on Monday through Friday 8 a.m. until 4:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jong-Suk (James) Lee can be reached on (571) 272-7044. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Leah Lovell
Examiner
15 May 2008

/Jong-Suk (James) Lee/
Supervisory Patent Examiner, Art Unit 2885